

Remarks

Applicants respectfully request reconsideration of the present application in view of the following remarks. No claims have been amended, added or cancelled. Therefore, claims 11-31 remain pending in the present application.

Claims 11-31 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Publication No. 2003/0235723 to Simpkins et al. ("the Simpkins reference") in view of U.S. Patent No. 6,626,650 to Kenchington et al. ("the Kenchington reference").

Independent claim 11 is directed to a fuel cell assembly (70) comprising at least one fuel cell stack (72) and a supporting structure (76, 78) surrounding the fuel cell stack (72). *See Specification*, pg. 4, lines 7-8; pg. 6, lines 27-28; pg. 7, lines 1-5; FIG. 3. A gas spring (10) is disposed within the assembly (70) between the stack (72) and the supporting structure (76, 78). *See id.* at pg. 4, lines 8-10; pg. 5, lines 14-15; pg. 6, lines 27-31; pg. 7, lines 1-5; FIG. 3. The spring (10) includes a first membrane (20), a second membrane (22), and means for sealing edges of the first and second membranes (20, 22) to define a closed chamber (26) therebetween for capture of gas (28). *See id.* at pg. 5, lines 17-20, 24; FIGS. 2-3. A first valve means (30) is included for admitting gas to the chamber, and a second valve means (50) is included for exhausting gas from the chamber. *See id.* at pg. 5, lines 28-31; pg. 6, lines 1-19; FIGS. 2-3.

The question of obviousness is resolved on the basis of underlying factual determinations including (1) the scope and content of the prior art, (2) any

differences between the claimed subject matter and the prior art, (3) the level of skill in the art, and (4) any secondary considerations that may be in evidence.

See Graham v. John Deere Co. of Kan. City, 383 U.S. 1, 17-18 (1966); *see also KSR Int'l Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1734 (2007) (stating that the *Graham* factors continue to define the inquiry that controls an obviousness determination); *see also* MPEP 2141.

Applicants submit that the Simpkins reference is disqualified as prior art with respect to the claim 11 of the present patent application pursuant to 35 U.S.C. § 103(c)(1), and it is therefore improper to use the Simpkins reference in combination with the Kenchington reference to reject claim 11. Section 103(c)(1) states the following:

Subject matter developed by another person, which qualifies as prior art only under one or more of subsections (e), (f), and (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the claimed invention was made, owned by the same person or subject to an obligation of assignment to the same person.

35 U.S.C. § 103(c)(1).

In order to disqualify the Simpkins reference under Section 103(c)(1), the following test must be met: 1) the subject matter included in the Simpkins reference must have been developed "by another;" 2) the subject matter in the Simpkins reference must only qualify as prior art under one or more of 35 U.S.C. § 102(e), (f), or (g); and 3) the subject matter in the Simpkins reference and the present patent application were, at the time the claimed invention was made,

owned by the same person or subject to an obligation of assignment to the same person.

With regard to the first element of the above-referenced test, the subject matter was developed "by another" if the inventors in the cited reference are different than the inventors in the present patent application. See MPEP 2136.04 (stating that the inventive entity of different if not all of the inventors are the same). The subject matter included in the Simpkins reference was developed "by another" because the inventive entity is different than the inventive entity of the present patent application.

With regard to the second element of the above-referenced test, the Simpkins reference only qualifies as prior art under only one or more of 35 U.S.C. § 102(e), (f), or (g), particularly, 35 U.S.C. § 102(e). The Simpkins reference qualifies as prior art under 35 U.S.C. § 102(e) because the portion of the Simpkins reference that the Examiner relied upon in the Office Action mailed on November 27, 2009 ("Office Action") was described in a patent application (i.e., the Simpkins reference), published under 35 U.S.C. § 122(b), by another filed in the United States (March 13, 2003) before the invention by the inventors in the present patent application. See 35 U.S.C. § 102(e). No other section of Section 102 applies to the Simpkins reference.

With regard to the third element of the above-referenced test, as previously established in the Response to Office Action filed on August 18, 2008, Applicants submit that the present patent application and the Simpkins reference were, at the time the invention of the present patent application was made.

owned by Delphi Technologies, Inc. ("Delphi") or subject to an obligation of assignment to Delphi. See 35 U.S.C. § 103(c)(1); MPEP 706.02(I)(1) & (2). The document assigning the rights in the present patent application to Delphi was recorded in the U.S. Patent & Trademark Office at Reel 014240, Frame 0714, and the document assigning the rights in the Simpkins reference was recorded in the U.S. Patent & Trademark Office at Reel 013865, Frame 0876.

In view of the above, Applicants submit that the Simpkins reference does not qualify as prior art against the present patent application based on 35 U.S.C. § 103(c)(1). As such, it is requested that the rejection of claim 11 be withdrawn. As claims 12 and 14-20 depend either directly or indirectly from claim 11, Applicants request that the rejection of claims 12 and 14-20 be withdrawn for at least the same reason that was set forth with respect to claim 11.

Independent claim 13 is directed to a fuel cell assembly (70) comprising at least one fuel cell stack (72) and a supporting structure (76, 78) surrounding the fuel cell stack (72). See *Specification*, pg. 4, lines 7-8; pg. 6, lines 27-28; pg. 7, lines 1-5; FIG. 3. A gas spring means (10) is disposed within the assembly (70) between the stack (72) and the supporting structure (76, 78). See *id.* at pg. 4, lines 8-10; pg. 5, lines 14-20; pg. 6, lines 23-31; pg. 7, lines 1-5; FIG. 3. The gas spring means (10) defines a closed chamber (26) and includes an inlet valve (30) for admitting gas (28) into the chamber (26) and an outlet valve (50) for exhausting gas (28) from the chamber (26). See *id.* at pg. 5, lines 20, 24, 28-31; pg. 6, lines 1-19; FIGS. 2-3.

For at least the same reason set forth above with respect to claim 11, Applicants submit that the Simpkins reference is disqualified as prior art under 35 U.S.C. § 103(c)(1), and request that the rejection of claim 13 be withdrawn.

Independent claim 21 is directed to a fuel cell assembly (70) comprising at least one fuel cell stack (72) and a supporting structure (76, 78) surrounding the fuel cell stack (72). *See Specification*, pg. 4, lines 7-8; pg. 6, lines 27-28; pg. 7, lines 1-5; FIG. 3. A gas spring (10) is disposed within the assembly (70) between the stack (72) and the supporting structure (76, 78). *See id.* at pg. 4, lines 8-10; pg. 5, lines 14-20; pg. 6, lines 23-31; pg. 7, lines 1-5; FIG. 3. The spring (10) includes a membrane defining a gas chamber (26). *See id.* at pg. 5, lines 18-20. A first valve (30) is positioned in the membrane for admitting gas (28) to the chamber (26) and a second valve (50) is positioned in the membrane for exhausting gas (28) from the chamber (26). *See id.* at pg. 5, lines 28-31; pg. 6, lines 1-23.

For at least the same reason set forth above with respect to claim 11, Applicants submit that the Simpkins reference is disqualified as prior art under 35 U.S.C. § 103(c)(1), and request that the rejection of claim 21 be withdrawn. As claims 22-29 depend either directly or indirectly from claim 21, Applicants request that the rejection of claims 22-29 be withdrawn for at least the same reason that was set forth above with respect to claim 11.

Independent claim 30 is directed to a fuel cell assembly (70) comprising at least one fuel cell stack (72) and a supporting structure (76, 78) surrounding the fuel cell stack (72). *See Specification*, pg. 4, lines 7-8; pg. 6, lines 27-28; pg. 7,

lines 1-5; FIG. 3. A gas spring (10) is disposed within the assembly (70) between the stack (72) and the supporting structure (76, 78). *See id.* at pg. 4, lines 8-10; pg. 5, lines 14-20; pg. 6, lines 23-31; pg. 7, lines 1-5; FIG. 3. The spring (10) includes a membrane defining a gas chamber (26), wherein the gas within the closed chamber is at a first pressure. *See id.* at pg. 5, lines 18-20. A first valve is positioned in the membrane for admitting gas to the chamber from an exterior of the gas spring, and a second valve is positioned in the membrane for exhausting gas from the chamber into the exterior, wherein the exterior is at a second pressure. *See id.* at pg. 5, lines 28-31; pg. 6, lines 1-23.

For at least the same reason set forth above with respect to claim 11, Applicants submit that the Simpkins reference is disqualified as prior art under 35 U.S.C. § 103(c)(1). It is therefore requested that the rejection of claim 30 be withdrawn. As claim 31 depends from claim 30, Applicants request that the rejection of claim 31 be withdrawn for at least the same reason that was set forth above with respect to claim 30.

Even if the Simpkins reference is considered to be prior art (which it is not), Applicants submit that the proposed combination of the Simpkins reference and the Kenchington reference fails to teach all of the limitations included in claim 30. In the Office Action, the Examiner utilized the Kenchington reference to teach the first and second valves recited in claim 30. *See Office Action*, pg. 3.

As best seen in FIG. 4, the Kenchington reference shows a compressor that uses three valves (106, 115, 116). The first valve (106) bridges ambient pressure air with a central chamber (104), and permits air to be drawn into the

central chamber (104) when a movable piston (102) causes the volume of the central chamber (104) to increase, wherein the pressure in the central chamber (104) becomes less than ambient air pressure causing the first valve (106) to pop off its seated position shown in FIG. 4. The second valve (115) bridges the central chamber (104) with a compression chamber (105). As the movable piston (102) changes direction to reduce the volume in the central chamber (104) (and increase its pressure), air is forced into the compression chamber (105) through the second valve (115). The third valve (116) bridges the compression chamber (105) with an outlet. As the movable piston (102) again changes direction (and begins to again increase the volume in the central chamber (104)), the air is compressed in the compression chamber (105). The second valve (115) is forced against its seat closing off flow between the central chamber (104) and the compression chamber (105). At the same time, the third valve (116) opens, releasing the compressed air from the compression chamber (105) to the outlet, thereby increasing the pressure of the air released from the outlet over the ambient air pressure.

The Kenchington reference fails to teach or suggest a fuel cell assembly including a first valve that admits gas into a gas chamber (having a first pressure) from a single common exterior chamber (having a second pressure), and a second valve that exhausts gas from the gas chamber into the single common exterior chamber as recited in claim 30. In the Kenchington reference, the three valves (106, 115, 116) in combination with the moving piston (102) serve to sequentially increase the pressure of the air as the air moves from ambient

pressure, to the central chamber (104), to the compression chamber (105) and to the outlet. In order to evaluate whether the Kenchington reference teaches the above-referenced claim limitation, we will designate valve (106) as the first valve in claim 30 and designate valve (115) as the second valve in claim 30. While the air admitted through the first valve (106) into the central chamber (104) may be at ambient pressure, the air exhausted from the second valve (115) is not moved to the same chamber that served as the air supply for the first valve (106), as is required in claim 30. Instead, the air exhausted from the second valve (115) moves into the compression chamber (105), which is not at the same pressure as the area where the air passing through the first valve (106) originates from.

Next we will designate valve (115) as the first valve in claim 30 and designate valve (116) as the second valve in claim 30. While the air passing through the second valve (116) from the compression chamber (105) may be exhausted through the outlet into an exterior chamber at ambient pressure, the air admitted through the first valve (115) is not being fed from the same chamber that served as the air exhaust outlet for the second valve (116). Instead, the air admitted into the first valve (115) originates from the central chamber (104), which is not at the same pressure as the area where the air being exhausted from the second valve (116) passes into.

Lastly, we will designate valve (106) as the first valve in claim 30 and designate valve (116) as the second valve in claim 30. The air that is admitted through the first valve (106) originates from, and the air being exhausted through the second valve (116) ends up in, a common exterior chamber. However, the

air that passes into the first valve (106) does not pass into the same chamber that the air flowing out of the second valve (116) comes from. In particular, the air passing through the first valve (106) flows into the central chamber (104), and the air that passes out of the second valve (116) originates from a separate compression chamber (105). Thus, the air passing through the first and second valves (106, 116) does not flow into and out of a single common gas chamber as set forth in claim 30.

As demonstrated by the above-noted scenarios, the Ketchington reference does not teach or suggest a first valve that admits gas into the gas chamber from a single common exterior chamber having a second pressure, and a second valve that exhausts gas from the gas chamber into the single common exterior chamber as set forth in claim 30.

For this additional reason, Applicants submit that the proposed combination of the Simpkins reference and the Kenchington reference fails to teach or suggest all of the limitations included in claim 30. As claim 31 depends from claim 31, it is submitted that the proposed combination of references does not teach or suggest claim 31 for at least the additional reason that was set forth above with respect to claim 30.

Conclusion

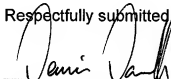
In light of the foregoing, Applicants submit that claims 11-31 are in condition for allowance and such allowance is respectfully requested. Should the Examiner feel that any unresolved issues remain in this case, the undersigned

may be contacted at the telephone number listed below to arrange for an issue resolving conference.

Applicants do not believe that any fee is due at this time. However, the Commissioner is hereby authorized to charge any fee that may have been overlooked to Deposit Account No. 50-4635.

Dated: 3/1/10

Respectfully submitted,



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